UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 31, 2024

David P. Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 350 AND 327 RE: ADOPTION OF TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER TSTF-59-A, REVISION 1 (EPID L-2023-LLA-0091)

Dear David Rhoades:

The U.S. Nuclear Regulatory Commission (NRC or the Commission) has issued the enclosed Amendment Nos. 350 and 327 to Renewed Facility Operating License Nos. DPR-53 and DPR-69, respectively, for the Calvert Cliffs Nuclear Power Plant, Units 1 and 2. The amendments consist of changes to the technical specifications (TS) in response to Constellation Energy Generation, LLC's application dated June 13, 2023, as supplemented by letter dated November 14, 2023.

The amendments revise TS 3.5.1, "Safety Injection Tanks (SITs)," to adopt Technical Specifications Task Force (TSTF) traveler TSTF-59-A, Revision 1, "Incorporate CE [Combustion Engineering] NPSD-994 Recommendations into the SITs [Safety Injection Tanks] Specification."

A copy of the related safety evaluation is enclosed. A Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

Sincerely,

/RA Audrey Klett for/

Michael Marshall, Senior Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosures:
1. Amendment No. 350 to License No. DPR-53
2. Amendment No. 327 to License No. DPR-69
3. Safety Evaluation

cc: Listserv

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 350
Renewed License No. DPR-53

1. The U.S. Nuclear Regulatory Commission has found that:

   A. The application for the amendment filed by Constellation Energy Generation, LLC, dated June 13, 2023, as supplemented by letter dated November 14, 2023, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance that: (i) the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Renewed Facility Operating License and Technical Specifications, as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-53 is hereby amended to read, in part, as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 350, are hereby incorporated into this license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARSHALL

Digitally signed by MICHAEL MARSHALL
Date: 2024.05.31 15:22:14 -04'00'

Hipólito González, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating License and Technical Specifications

Date of Issuance: May 31, 2024

ATTACHMENT TO LICENSE AMENDMENT NO. 350

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1

RENEWED FACILITY OPERATING LICENSE DPR-53

DOCKET NO. 50-317

Replace the following page of Renewed Facility Operating License No. DPR-53 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove	Insert
Page 3	Page 3

Replace the following page of the appendix A technical specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove	Insert
3.5.1-1	3.5.1-1

(4) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, in amounts as required, any byproduct, source, and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license is deemed to contain and is subject to the conditions set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act, and the rules, regulations, and orders of the Commission, now or hereafter applicable; and is subject to the additional conditions specified and incorporated below:

(1) Maximum Power Level

Constellation Energy Generation, LLC is authorized to operate the facility at steady-state reactor core power levels not in excess of 2737 megawatts-thermal in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 350, are hereby incorporated into this license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Technical Specifications.

(a) For Surveillance Requirements (SRs) that are new, in Amendment 227 to Facility Operating License No. DPR-53, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 227. For SRs that existed prior to Amendment 227, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 227.

(3) Additional Conditions

The Additional Conditions contained in Appendix C as revised through Amendment No. 345 are hereby incorporated into this license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Additional Conditions.

3.5 EMERGENCY CORE COOLING SYSTEM (ECCS)

3.5.1 Safety Injection Tanks (SITs)

LCO 3.5.1 Four SITs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SIT inoperable due to boron concentration not within limits. OR One SIT inoperable due to the inability to verify level or pressure.	A.1 Restore SIT to OPERABLE status.	72 hours
B. One SIT inoperable for reasons other than Condition A.	B.1 Restore SIT to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	6 hours 12 hours
D. Two or more SITs inoperable.	D.1 Enter LCO 3.0.3.	Immediately

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 327
Renewed License No. DPR-69

1. The U.S. Nuclear Regulatory Commission has found that:

   A. The application for the amendment filed by Constellation Energy Generation, LLC, dated June 13, 2023, as supplemented by letter dated November 14, 2023, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance that: (i) the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Renewed Facility Operating License and Technical Specifications, as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-69 is hereby amended to read, in part, as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 327, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

MICHAEL MARSHALL

Digitally signed by MICHAEL MARSHALL
Date: 2024.05.31 15:22:53 -04'00'

Hipólito González, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating License and Technical Specifications

Date of Issuance: May 31, 2024

ATTACHMENT TO LICENSE AMENDMENT NO. 327

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2

RENEWED FACILITY OPERATING LICENSE DPR-69

DOCKET NO. 50-317, 50-318

Replace the following page of Renewed Facility Operating License No. DPR-69 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove	Insert
Page 3	Page 3

Calvert Cliffs Nuclear Power Plant, Unit 2, uses the same Appendix A Technical Specifications as Calvert Cliffs Nuclear Power Plant, Unit 1. Accordingly, the Unit 1 Renewed Facility Operating License has been updated with the following page, which is applicable to both Units 1 and 2.

Remove	Insert
3.5.1-1	3.5.1-1

(4) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, in amounts as required, any byproduct, source, and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license is deemed to contain and is subject to the conditions set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act, and the rules, regulations, and orders of the Commission, now or hereafter applicable; and is subject to the additional conditions specified and incorporated below:

(1) Maximum Power Level

Constellation Energy Generation, LLC is authorized to operate the facility at steady-state reactor core power levels not in excess of 2737 megawatts-thermal in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 327, are hereby incorporated into this license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Technical Specifications.

(a) For Surveillance Requirements (SRs) that are new, in Amendment 227 to Facility Operating License No. DPR-53, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 227. For SRs that existed prior to Amendment 227, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 227.

(3) Additional Conditions

The Additional Conditions contained in Appendix C as revised through Amendment No. 345 are hereby incorporated into this license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Additional Conditions.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 350 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 327 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69

CONSTELLATION ENERGY GENERATION, LLC

CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NO. 50-317, 50-318

1.0 INTRODUCTION

By application dated June 13, 2023 (Agencywide Documents Access and Management System Accession No. (ADAMS) ML23164A170), as supplemented by letter dated November 14, 2023 (ML23318A472), Constellation Energy Generation, LLC (the licensee) submitted a license amendment request (LAR) to the U.S. Nuclear Regulatory Commission (NRC or the Commission) to modify the technical specifications (TSs) for Calvert Cliffs Nuclear Power Plant (Calvert Cliffs), Units 1 and 2. The proposed changes would incorporate the NRC-approved Technical Specification Task Force (TSTF) Traveler, TSTF-59-A, Revision 1, "Incorporate CE [Combustion Engineering] NPSD-994 Recommendations into the SITs [Safety Injection Tanks] Specification," Revision 1 (ML040440152).[1, 2]

The licensee's supplement provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination, as published in the *Federal Register* on August 8, 2023 (88 FR 53539).

1.1 Background

Calvert Cliffs, Units 1 and 2, are CE-designed pressurized-water reactor facilities. As discussed in section B 3.5.1 of the TS Bases (ML23250A368), Calvert Cliffs' SITs are pressure vessels partially filled with borated water and pressurized with nitrogen gas. The SITs are passive components because no operator or control action is required for them to perform their function. Internal tank pressure is sufficient to discharge the contents to the reactor coolant system (RCS), if RCS pressure decreases below the SIT pressure.

[1] The NRC staff's approval letter for TSTF-59-A was issued on July 26, 1999 (ML19067A141).
[2] CE NPSD-994, "Joint Applications Report for Safety Injection Tank AOT/STI [Allowed Outage Time/Surveillance Test Interval] Extension," dated May 1995, is available at ML17228B190.

TS Limiting Condition for Operation (LCO) 3.5.1 establishes the minimum conditions required to ensure that the SITs are available to accomplish their core cooling safety function following a loss-of-coolant accident (LOCA). As discussed in section B 3.5.1 of the TS Bases (ML23250A368), four SITs are required to be operable to ensure that 100 percent of the contents of three SITs will reach the core during a LOCA.

A licensee's adoption of TSTF-59-A would allow the licensee 72 hours to restore operability of the SIT when one SIT is inoperable when boron concentration not within limits or when level or pressure cannot be verified. Adopting this traveler would also allow extending the completion time (or allowed outage time (AOT)) from 1 hour to 24 hours when one SIT is inoperable for reasons other than boron concentration limits or level or pressure verification ability. On July 26, 1999, the NRC approved TSTF-59-A, which is based on the analysis in CE NPSD-994.

In August 1995, the Combustion Engineering Owners Group (CEOG) submitted CE NPSD-994 to the NRC. CE NPSD-994 provided justifications for extending the TS AOT for SITs. The CEOG's justification was based on a balance of probabilistic considerations, traditional engineering considerations (e.g., defense-in-depth), and operating experience. The report formulated first-of-a-kind risk-informed bases for extending the AOT of SITs for all the CE-designed plants. NUREG-1432, Revision 5, "Standard Technical Specifications Combustion Engineering Plants," Volume 2, "Bases" (ML21258A424), section B 3.5.1 states that CE NPSD-994 provides a series of deterministic and probabilistic findings that support the 24-hour completion time as having no effect on risk as compared to shorter periods for restoring the SIT to operable status. The NRC staff's safety evaluations for license amendments issued to Arkansas Nuclear One, Unit 2 (ML20237A245, August 7, 1998), Palo Verde Nuclear Generation Station (ML021720024, October 2, 1998), and Palisades Nuclear Plant (ML003756143, October 2, 2000) discussed NRC's review of CE NPSD-994 for those site-specific applications.

1.2 Proposed TS Changes to Adopt TSTF-59-A

In accordance with TSTF-59-A, the proposed changes would revise TS 3.5.1, "Safety Injection Tanks (SITs)," by adding a condition (in Condition A) for when one SIT is inoperable due to the inability to verify level or pressure, replacing the required action for Condition A with a requirement to restore the SIT to operable status, and replacing the 1-hour completion time for the Condition B required action with 24 hours. Specifically, the licensee proposed changes that would revise TS 3.5.1 as follows (with proposed changes to Conditions A and B and their required action or completion time) shown in bold text):

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SIT inoperable due to boron concentration not within limits. **OR** **One SIT inoperable due to the inability to verify level or pressure.**	**A.1 ~~Restore boron Concentration to within limits~~ Restore SIT to OPERABLE status.**	72 hours

B. One SIT inoperable for reasons other than Condition A.	B.1 Restore SIT to OPERABLE status.	~~**1 hour**~~ **24 hours**

The licensee's supplement provided additional information regarding the Calvert Cliffs probabilistic risk assessment (PRA) models' technical acceptability and an evaluation of the risk associated with the proposed TS changes based on NRC Regulatory Guide (RG) 1.174, Revision 3, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis" (ML17317A256).

2.0 REGULATORY EVALUATION

2.1 Regulations

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36(c)(2) requires that TSs include LCO. Per 10 CFR 50.36(c)(2)(i), "LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility." The regulation also requires that "[w]hen a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met."

Under 10 CFR 50.92(a), in determining whether an amendment to a license will be issued, the NRC staff is guided by the considerations that govern the issuance of initial licenses to the extent applicable and appropriate. The common standards for licenses in 10 CFR 50.40(a), and those specifically for issuance of operating licenses in 10 CFR 50.57(a)(3), provide that there must be "reasonable assurance" that the activities at issue will not endanger the health and safety of the public. Accordingly, for this LAR, the NRC evaluated the proposed changes to determine whether there is reasonable assurance that the actions taken when an LCO is not met will not endanger public health and safety.

2.2 Licensing Basis (Previous Approvals)

NRC issued license amendment Nos. 326 and 304 for Calvert Cliffs, Units 1 and 2, respectively, on October 30, 2018 (ML18270A130), which added a risk-informed completion time (RICT) program to the TS.

2.3 Guidance

The NRC staff's guidance for the review of TSs is provided in Chapter 16.0, "Technical Specifications," of NUREG-0800, Revision 3, "Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition," March 2010 (ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared standard technical specifications (STS) for each of the LWR nuclear designs. Accordingly, the NRC staff's review includes consideration of whether the proposed changes are consistent with the STS[3] as modified by NRC approved travelers.

[3] NUREG-1432, Revision 5.0, "Standard Technical Specifications, Combustion Engineering Plants," Volume 1, "Specifications," and Volume 2, "Bases," dated September 30, 2021 (ML21258A421 and ML21258A424, respectively).

Generic Letter (GL) 93-05, “Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operations,” dated September 27, 1993 (ML031070342), provides guidance for preparing a LAR to change TS to reduce testing during power operation.

NUREG-1366, “Improvements to Technical Specifications Surveillance Requirements,” dated December 1992 (ML20127H094), documented the NRC staff’s examination of TS surveillance requirements that may affect reactor safety, personnel safety, or plant operation to identify those surveillance requirements that should be improved.

RG 1.174, Revision 3 describes an acceptable approach for developing risk-informed applications for a licensing basis change that considers engineering issues and applies risk insights. It provides general guidance concerning analysis of the risk associated with proposed changes in plant design and operation.

RG 1.177, Revision 2, “Plant-Specific, Risk-Informed Decision making: Technical Specifications,” dated January 2021 (ML20164A034), describes an acceptable approach for developing risk-informed applications for changes to completion times and surveillance frequencies of TS.

3.0 TECHNICAL EVALUATION

3.1 Proposed Changes to TS 3.5.1 Condition A and its Required Action

GL 93-05 recommended that licensees should add a condition to the SIT TS for the case where one SIT is inoperable due to the inoperability of water level and pressure channels in which the completion time to restore the SIT to operable status would be 72 hours. The results of GL 93-05 were reported in NUREG-1366.

As discussed in section 6.5.1 of CE NPSD-994, NUREG-1366 provides the following non-risk related justification for a specific AOT extension from 1 hour to 72 hours for a single SIT (accumulator) when that inoperability is caused solely by malfunctioning level instrumentation or solely by malfunctioning pressure instrumentation:

> The combination of redundant level and pressure instrumentation [for any specific SIT] may provide sufficient information so that it may not be worthwhile to always attempt to correct drift associated with one instrument if there were sufficient time to repair one in the event that a second one became inoperable. Because these instruments do not initiate a safety action, it is reasonable to extend the allowable outage time for them. The [NRC] staff, therefore, recommends that an additional condition be established for the specific case, where “One accumulator is inoperable due to the inoperability of water level and pressure channels,” in which the completion time to restore the accumulator to operable status will be 72 hours. While technically inoperable, the accumulator would be available to fulfill its safety function during this time and, thus, this change would have a negligible increase on risk.

The licensee’s application states that the equipment, configuration, and use of the instrumentation at Calvert Cliffs is consistent with the generic evaluations specified in CE NPSD-994 and documented in NUREG-1366. Because these instruments provide no safety actuation, the NRC finds that it is acceptable to extend the completion time to 72 hours under

these conditions because the SIT would be available to perform its safety function during this time. The NRC staff finds that the proposed changes are consistent with the NRC staff's recommendations in GL 93-05, NUREG-1366, and Revision 5 of NUREG-1432. Therefore, the NRC staff finds the proposed changes to TS 3.5.1 provide reasonable assurance that the actions taken when LCO 3.5.1 is not met will not endanger public health and safety and that the changes are acceptable.

3.2 Proposed Change to TS 3.5.1 Condition B Completion Time

If a single SIT was diagnosed as inoperable for reasons other than boron concentration being outside of limits (which is already addressed under a separate action with a 72-hour completion time), then TS 3.5.1, Action B, would presently allow 1 hour for operators to restore the SIT to operable status. If the action was not completed within 1 hour, then the plant would have to be placed in Mode 3 (hot standby) within the next 6 hours, in accordance with Action C.

CE NPSD-994 states that industry operating experience has demonstrated that many of the causes of SIT inoperability have been diagnosed and corrected within a relatively short period but within one that is often longer than the existing 1-hour completion time. In several cases, the diagnosis of an inoperable SIT has resulted in plant shutdowns. The NRC staff finds that unnecessary plant shutdowns associated with the outage of non-risk-significant equipment are undesirable because mode changes have the potential to increase the risk above that of steady-state operation.

CE NPSD-994 states that the extension of the existing SIT completion time from 1 to 24 hours should provide the licensee with sufficient time in which to diagnose and possibly repair minor SIT system malfunctions at power, thereby averting an unplanned plant shutdown.
CE NPSD-994 provides a series of deterministic and probabilistic findings that support the 24-hour completion time as having no effect on risk as compared to shorter periods for restoring the SIT to operable status. Because the risk analyses in CE NPSD-994 demonstrate that the increased risk of operating with a single SIT out of service is negligible and because the licensee has demonstrated in its supplement that the proposed change meets the acceptance criteria in RG 1.174, Revision 3, and RG 1.177, Revision 2 (as discussed in section 3.5), the NRC staff finds that the proposed change is acceptable.

3.3 TS Change Consistency

The NRC staff reviewed the proposed TS changes for technical clarity and consistency with the guidance in Chapter 16 of the SRP for customary terminology and formatting. The NRC staff did not incorporate all the proposed underlining of the new condition of condition A. The NRC staff confirmed that this editorial correction does not materially change technical specification requirements. The NRC staff finds that the proposed changes are consistent with Chapter 16.0 of the SRP.

3.4 Risk Evaluation

In its supplement dated November 14, 2023, the licensee included additional information regarding the licensee's PRA along with a risk evaluation of the proposed change. The licensee stated that its PRA models' quality is considered acceptable for this proposed change based on the NRC's issuance of license amendments on October 20, 2018 (ML18270A130), which added a RICT program to the TS. As documented in the NRC staff's safety evaluation for those license amendments, the NRC staff found that the licensee's PRA models satisfy the technical

acceptability guidance of RG 1.200, Revision 2, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities,” dated March 2009 (ML090410014), and that the models have an acceptable periodic update and review process.

In its supplement dated November 14, 2023, the licensee stated that a risk evaluation was performed for this proposed change and that the SITs are of low-risk significance in the licensee’s PRA models. The licensee further stated that in its PRA model, the SITs are only required to mitigate large LOCA events, that the frequency of large LOCA initiating events is 6.05×10^{-6}, and that the success criterion is two of four SITs injecting into intact cold legs.

The licensee stated that the SITs are not credited in its fire PRA, as no fire scenarios lead to a large LOCA, and that the risk from external events is insignificant. The licensee further stated that any seismic event sufficiently challenging to cause a large LOCA will also fail the refueling water storage tank (RWST) and, as the RWST is required for all LOCA mitigation, there would be no change in risk from seismic events due to the unavailability of an SIT required for large LOCAs. The licensee further stated that high wind events do not drive a large LOCA and that other external hazards are shown to not be significant.

In its risk evaluation, the licensee used a bounding and simplified approach to calculate incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP). The licensee stated that a bounding ICCDP and ICLERP were calculated by multiplying the large LOCA initiating event by the 24-hour scaling factor, which the licensee described as a conservative approach as it assumes that any large LOCA event that occurs during a one-hour SIT unavailability goes straight to core damage and large early release.

The licensee used a scaling factor of 2.74×10^{-3} to adjust the annualized initiating event frequency to the 24-hour completion time, which resulted in a bounding ICCDP and ICLERP of 1.66×10^{-8}, which is less than (within) the acceptance criteria of 1×10^{-6} for ICCDP and 1×10^{-7} for ICLERP in RG 1.177, Revision 2.

In its LAR to add a RICT program (ML16060A223), the licensee reported a baseline core damage frequency (CDF) of 5.3×10^{-5} for Calvert Cliffs, Unit 1, and 5.1×10^{-5} for Calvert Cliffs, Unit 2, while the CDF reported in CE NPSD-994 was 2.11×10^{-4} for both units. While the CDF reported in CE NPSD-994 is slightly higher than the RG 1.174 value of 10^{-4}, the current CDF is below the RG 1.174 value of 10^{-4}. There was no change in total CDF reported in the licensee’s current risk evaluation or in CE NPSD-994 because of the proposed change.

Also, in its LAR to add a RICT program, the licensee reported a baseline large early release frequency (LERF) of 4.5×10^{-6} for Unit 1 and 4.8×10^{-6} for Unit 2. CE NPSD-994 did not include a numerical value for LERF. There was no change in LERF reported in the licensee’s current risk evaluation, and CE NPSD-994 concluded that there was only a negligible impact on large early release probability because of the proposed change.

The licensee identified two sources of potential uncertainty: (1) the uncertainty associated with the LOCA break frequencies and (2) the SIT LCO may be applied more than once during a year. The licensee doubled the break frequencies, assumed four 24-hour instances of entry into the LCO during a year, and determined that the resulting change in CDF (delta (Δ) CDF) and change in LERF (ΔLERF) of 3.31×10^{-8} and 6.62×10^{-8}, respectively, when considering both these

potential uncertainties, still meet the RG 1.174 acceptance criteria for a “very small change” (i.e., Region III of figures 4 and 5 in RG 1.174, Revision 3) in ΔCDF and ΔLERF.

In CE NPSD-994, the licensee’s SIT single completion time risk (equivalently the ICCDP) was reported to be 9.37×10^{-7}, which is within the RG 1.177, Revision 2 acceptance guideline value of 10^{-6}. Also, in CE NPSD-994, it was reported that there was no change in the licensee’s CDF due to the proposed change (i.e., 2.11×10^{-4} per year).

When comparing the licensee’s risk evaluation provided in its supplement dated November 14, 2023, to the results reported in CE NPSD-994, the licensee reported a bounding ICCDP and ICLERP of 1.66×10^{-8}, while the SIT single completion time risk (equivalently the ICCDP) reported in CE NPSD-994 was reported to be 9.37×10^{-7}, both of which are below (within) the RG 1.177, Revision 2 acceptance value of 10^{-6}.

The NRC staff finds the licensees proposed change acceptable because the licensee has demonstrated that the total CDF and LERF meets the 10^{-4}/year CDF and 10^{-5}/year criteria of RG 1.174, Revision 3 because (1) the licensee has demonstrated through a conservative and bounding analysis that ICCDP is less than 10^{-6}/year and ICLERP is less than 10^{-7}/year, and (2) the change in CDF of less than 10^{-7} per year is within the very small change acceptance guideline of RG 1.174, Revision 3.

3.5 Technical Evaluation Summary

The NRC staff concludes that the proposed changes are consistent with NRC staff guidance in GL 93-05, NUREG-1366, and Revision 5 of NUREG-1432 regarding SIT TS requirements. The NRC staff also concludes that the insights gained from the quantitative evaluation of the risk associated with the proposed changes are consistent with RG 1.174, Revision 3 and RG 1.177, Revision 2. Therefore, the NRC staff concludes that the proposed changes provide reasonable assurance that the actions taken when LCO 3.5.1 is not met will not endanger public health and safety and are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission’s regulations, the NRC staff notified the Maryland State official on March 21, 2024, of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration as documented in the *Federal Register* (88 FR 53537 published on August 8, 2023), and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: Ravi Grover, NRR
Jay Robinson, NRR

Date: May 31, 2024

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 350 AND 327 RE: ADOPTION OF TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER TSTF-59-A, REVISION 1 (EPID L-2023-LLA-0091) DATED MAY 31, 2024

DISTRIBUTION:

Public
RidsNrrDorlLpl1 Resource
RidsNrrPMCalvertCliffs Resource
RidsNrrLAKEntz Resource
RidsACRS_MailCTR Resource
RidsRgn1MailCenter Resource
RidsNrrDssStsb Resource
RidsNrrDraAplb Resource
RidsNrrDssSnsb Resource
RGrover, NRR
JRobinson, NRR
SBhatt, NRR
JSmith, NRR
AKlett, NRR
MMarshall, NRR

ADAMS Accession No.: ML24121A180

OFFICE	NRR/DORL/LLPB/PM	NRR/DORL/LPL1/PM	NRR/DORL/LPL1/LA
NAME	JSmith	AKlett	KEntz
DATE	05/13/2024	05/13/2024	5/1/2024
OFFICE	NRR/DRA/APLB/BC (A)	NRR/DSS/STSB/BC	OGC (NLO)
NAME	SMakor	SMehta	MCarpentier
DATE	02/21/2024	05/13/2024	05/23/2024
OFFICE	NRR/DORL/LPL1/BC	NRR/DORL/LPL1/PM	
NAME	HGonzález (MMarshall for)	MMarshall (AKlett for)	
DATE	5/31/2024	5/31/2024	

OFFICIAL RECORD COPY